

World Press Group Will Tour Facilities

World Press Institute Fellows from 11 countries will visit Oak Ridge February 4-5 for briefings and a tour of facilities operated by Union Carbide Corporation's Nuclear Division for the U. S. Atomic Energy Commission.

The World Press Institute, headquartered at Macalester College, St. Paul, Minn., is a private nonprofit organization sponsored by American corporations and their foundations. Each year the Institute selects outstanding young journalists from throughout the world as World Press Institute Fellows. For nine months, these newsmen participate in a program that includes intensive study, internships and travel.

This year's participants are from Argentina, Australia, Denmark, Ghana, India, Iran, Ireland, Japan, Malawi, Mexico and Switzerland.

As part of their visit to Oak Ridge, the fellows will be briefed by Roger F. Hibbs, President of the Nuclear Division; Paul R. Vanstrum, Vice President-Production; Alvin M. Weinberg, Director, Oak Ridge National Laboratory; Norman G. Anderson, Director of the Molecular Anatomy Program; and James L. Liverman, Associate Director for Environmental Sciences, ORNL.

The Fellows will be accompanied by James V. Toscano, Executive Director of the World Press Institute. Toscano explained that the main goal of the Institute is to insure that international opinion about the United States is shaped by journalists writing from a comprehensive background of experience in America.

"The Institute seeks to achieve this by providing young foreign journalists with an open and unfettered view of American society at every level so that they may return home with new-found ability to report and interpret U. S. affairs more accurately and with deeper understanding," Toscano said.

Spot Bid Sale Set On Surplus Goods

A used Government-owned vehicle and office equipment sale is now in progress at Surplus Sales.

Included in the sale will be trucks, vans, carryalls, sedans, as well as typewriters, calculators, and adding machines. The material may be inspected Monday through Friday from 8:10 a.m. to 4:15 p.m., through February 15. The Sales Office is also open Saturday, February 5, 15.

The Sales Office is located off State Route 58, near the Power House Area of the Oak Ridge Gaseous Diffusion Plant, Building K-722.

The spot bid sale will be consummated starting at 9 a.m., February 16.

BLOOD NEEDS FILLED

A Nuclear Division employee will undergo surgery in Oak Ridge this week, and will require 15 pints of blood. Thanks to the Red Cross, there will be no cost whatsoever for the life-saving blood.



AIR CONDITION A TREE BRANCH? This may never be your problem, but if it is, Blaine Dinger, of ORNL's Ecological Sciences Division, has the answer. Conducting studies on photosynthesis, he encountered the problem of the "greenhouse effect" of overheating whenever he tried to measure the respiration of a branch of leaves by enclosing the system in plastic. Thereupon he turned to his field engineer, Charles Abner, who acquired a collection of spare parts including two fan-evaporator coils from un-serviceable drinking fountains, a water pump once used to provide spring water to the Ecology Laboratory, a borrowed portable refrigeration system, and a water reservoir in the form of a 100-gallon institutional cookpot picked up on surplus by Sam Croft of Plant and Equipment Division. Shown is the tree cooling system as it was finally installed last summer in the Cesium Forest.

Bloodmobile Returning February 2, 3

An employee's wife recently received blood at a Knoxville hospital, and did not know she was eligible for replacement because her husband had been a donor at a Bloodmobile visit by the Red Cross in 1971! She was ready to pay for this service without question.

Donations make blood available to that donor and his family anywhere. That's one of the best features of the plan.

A Red Cross spokesman has pointed out that a total of 542 pints must be given for the February 2 and 3 visits. Due to a mix-up in scheduling, the Bloodmobile missed an appointment in Clinton, and those pints must be made up. So county residents, particularly those Nuclear Division employees living in Clinton, are urged to visit during the mobile unit's visit here next week.

Hours will be from 4 to 10 p.m. on Wednesday, February 2; and

from 11 a.m. to 5 p.m. on Thursday, February 3. The place will again be the Oak Ridge Armory on the Turnpike in Oak Ridge.

Red Cross officials point out that 18-year-olds can give now without parental consent, since Tennessee has given majority to all 18-year-olds, as well as the franchise.

Officials also point out that a new test has been instigated by Red Cross technicians to make sure hepatitis is not passed on to a donee. Another new feature is the freezing of rare blood types, so that they can be stored indefinitely to be used when needed as whole blood transfusions. This is a new feature of the Red Cross blood plan, also.

Local Red Cross people stress that 542 pints must be raised in Oak Ridge in the two-day visit.

Reservations for an appointment may be called in to Oak Ridge telephone number 483-5641.

Environmental Breakthrough

Union Carbide Development Converts Municipal Wastes

Union Carbide Corporation confirmed today that it has made an environmental breakthrough in the area of municipal solid waste disposal by developing a process that converts solid wastes into useful products. The disclosure came as a result of an announcement by August P. Petrillo, Mayor of Mount Vernon, N. Y., that his city will submit a proposal to the Federal Environmental Protection Agency to obtain funds to construct a 150 ton-per-day plant to demonstrate the economic and technical benefits of Union Carbide's process.

The new process employs pyrolysis to convert organic wastes, such as paper and garbage, to a fuel gas. Oxygen is used to produce the high temperatures needed both for this step and to melt and fuse inorganic solid wastes, such as metals and glass. The process is so effective that there is a 95-98 per cent reduction in volume from the originally charged waste. After more than nine months operation in a five ton-per-day pilot plant, it gives every indication of being technically, economically, and environmentally superior to any known incineration process.

Pilot Plant

No pollutants are discharged to the atmosphere, thus avoiding environmental problems usually associated with municipal incineration systems. Moreover, the system recovers a premium fuel gas, and a fused metal and glass slag which has several potential applications.

Known as the Oxygen Refuse Converter System, it was developed by Union Carbide's Linde Division after more than three years investigation into various high-temperature processes for the handling of municipal solid wastes. The pilot plant has been operating at Linde's Tarryton, New York, technical center. Patent applications covering the process have been filed.

A Union Carbide spokesman reported that the converter has been demonstrated to EPA officials and authorities from several towns and counties in the New York metropolitan area. The company has been seeking a municipality to demonstrate the system on a full-scale basis to verify its technical and economic advantages over other systems, and has selected Mount Vernon.

No Pretreatment

The system utilizes a vertical furnace into which all municipal waste can be fed, including garbage, paper, wood, rubber, all metals, plastics, glass, bulky items such as tires, electric motors, chairs, and the like. No shredding or pretreatment is needed. Basic unit operations of the converter are sufficiently similar to common incinerator operations so that little specialized operator training is required.

The operating efficiencies of the converter permit the use of furnace and gas cleaning equip-

ment considerably smaller than that required for conventional municipal incinerators. Computer cost analyses of the Refuse Converter System compared to conventional refractory incinerators indicate substantial capital and operating cost savings.

Market To Cities

The clean fuel gas produced in the system has a flame temperature and heat transfer characteristic similar to natural gas and can be used for energy conversion, or heating.

After a full-scale demonstration program confirms the favorable results obtained in the laboratory and pilot plant, Union Carbide will market the process to municipalities. It marks the latest in a series of pollution control processes developed by Union Carbide. Late last year, the company began marketing two separate processes for controlling nitrogen oxide and sulfur dioxide emissions from nitric and sulfuric acid plants. And in 1970, Union Carbide introduced the Unox oxygen waste treatment system for the secondary treatment of municipal and industrial wastewater. This patented process is currently being designed into the sewage treatment systems of about 30 municipalities in the U. S. and Canada.

Enrichment Services Near \$158 Million Reported Last Year

Almost \$158 million in enriching services were provided by the Oak Ridge Gaseous Diffusion Plant in 1971, an increase of \$73 million over the figure recorded in 1970.

The Plant furnished more than 2.9 million pounds of enriched uranium valued at \$157,914,311. This compares to total enriching service charges of \$85,750,000 reported in 1970, and \$45 million in 1969, which was the first year of operation for the program.

Toll enrichment was instituted on January 1, 1969. Under this program, privately-licensed owners bring their uranium to the gaseous diffusion plant for enriching on a toll basis. Customers are charged for the services required to separate from natural uranium the desired percentage of the uranium-235 isotope, usually between two and three percent.

During 1971, reactor facilities in the following states received uranium enriched at the Oak Ridge Plant: Alabama, Florida, Illinois, Maine, Maryland, Michigan, Minnesota, New Jersey, New York, Pennsylvania, South Carolina, Virginia and Wisconsin. Foreign nations served by the program include Japan, Spain, Sweden, The Netherlands and West Germany.

The Atomic Energy Commission's gaseous diffusion plants at Paducah, Ky., and Portsmouth, Ohio, are also involved in the uranium enrichment program.

Engineers Week Activities To Be February 21-26

Technical societies in the Oak Ridge and Paducah areas are pooling their resources to observe Engineers Week again this year. The week set aside is February 21-26, always the week in which George Washington's birthday falls.

The National Society of Professional Engineers spearheads the drive, and other participating societies include the American Institute of Chemical Engineers, the American Society of Mechanical Engineers, the Institute of Electrical and Electronic Engineers, the Instrument Society of America, the American Welding Society, the Instrument Society of America, and the American Society for Nondestructive Testing.

Nuclear Division men in Oak Ridge promoting National Engineers Week include Paul Boyer, Y-12, S.M.E.; Rolf C. Rosenvinge, ORGDP, TSPE; Fred Mundt, Y-12, ASNT; William G. Fort, ORGDP, IEEE; James Hylton, Y-12, ISA; George Jasny, General Engineering, TSPE; Frank Neill, ORNL, ASME; Sam A. Thompson, ORGDP, Y-12, AWS; George M. Doyle, ORGDP, AICHE; and William C. Tunnell, Y-12, TSPE.

The theme of this year's Engineers Week is "Engineering for New Cities." During the 1950's and 60's, American engineering rose to unparalleled heights of achievement in the sophisticated systems demanded by the defense and space programs. Today the problems center around the world's persistent domestic crises.

It is estimated that 100 million additional people will have to be provided with adequate housing and the full range of urban services, in this country alone.

Several features of the week have been planned by joint societies in Oak Ridge. Window displays will highlight careers in engineering in downtown stores.

A banquet Friday, February 25, will feature Tennessee's governor, Winfield Dunn, as main speaker. The banquet is set for the Shep Lauter Room, at the Civic Center, Oak Ridge, at 7 p.m. Details will follow in the next issue of Nuclear Division News.

PADUCAH DINNER

The Joint Technical Society has set February 24 as the big banquet date for Paducah to observe Engineers Week. Alex Radin, general manager, of the American Public Power Association, Wash-



PLAN ENGINEERS WEEK ACTIVITIES—The above committee representing several technical societies in the Oak Ridge area is busy planning Engineers Week activities. Seated from left are George Jasny, Jim Hylton, William G. Fort, Fred Mundt, Rolf C. Rosenvinge and Paul Boyer. Standing are Frank Neill, Sam A. Thompson, Daryl M. Papke, James C. Thompson, George M. Doyle and William C. Tunnell.

Safety Information Meet Set at ORNL Feb. 14, 15

The Nuclear Safety Program at ORNL will hold its next annual information meet on February 14, 15, in the Lab's main auditorium.

Four half-day sessions are planned and will cover: Heavy Section Steel Technology, Applied Mechanics, RDT Standards, Seismic Research, the Nuclear Safety Information Center, LMFBR, HTGR and LWR Safety Studies, General Nuclear Safety Investigations, and Environmental Effects of Nuclear Facilities. Questions and discussion by the audience will be invited.

Harold P. Green, professor of law at George Washington University, and consulting editor of the Commerce Clearing House Atomic Energy Law Reporter, will speak at a dinner meeting February 14, at the Oak Ridge Country Club. His subject will be "Nuclear Safety and the Public Interest." He holds an A.B. from the University of Chicago, and a J.D. from the University of Chicago Law School. He was formerly with the Office of the General Counsel of the AEC, and has authored numerous articles on atomic energy law, government security law and law-science/technology relationships.

ington, will be the banquet speaker. The affair is set for the Cabana Club, Paducah. Details will follow in the next issue of Nuclear Division News.

Savannah River Studies Show Where Largemouth Goes for Winter's Nap

Where does a largemouth bass go to take a long winter's nap—or on the nippy days of spring and fall? Scientists at the Savannah River Ecology Laboratory think they know.

At the Atomic Energy Commission's Savannah River Plant, the largemouth bass population, which weighs in the tons, heads for warm pools in a 2800-acre, man-made lake which receives heated water from a nearby nuclear production reactor. Savannah River Ecology Laboratory scientists have determined that not only do the largemouths prefer the warmer water but they also grow bigger and faster in the heated areas.

For over two-years Savannah River biologists have "gone fishing" twice a week in Par Pond, a large reservoir built to supplement supplies of water from the Savannah River to remove heat from the plant's nuclear reactors. Individual fish have been painstakingly caught, weighed, measured and tagged and cast back into the lake. Now there are more than 3000 largemouth bass wearing Savannah River Ecology Laboratory "ID cards." In this way when the same fish is recaptured, its rate of growth can be charted and the pattern of its movements in the water studied.

Their work, as the scientists call their fishing trips, is part of

an overall project to examine firsthand the reaction of fish to artificial warm water discharges.

Studies show, according to J. Whitfield Gibbons, a senior research scientist at the ecology laboratory, that "largemouth bass definitely occur in abundance at the point of entry of thermally heated water in the Par Pond reservoir."

A group of University of Rhode Island graduate students in a recent "in-the-field" project at the Savannah River Ecology Laboratory, which is operated for the AEC by the University of Georgia, came up with similar findings. They fished round-the-clock for a weekend and pulled in over 6000 fish of 11 species, including black crappie, blue gill, pickerel, and catfish. The warmer portions of the lake offered the best fishing, the Rhode Island group discovered, corroborating the results of previous Savannah River studies. The student fishermen caught a half a ton of largemouth bass—not bad for beginners.

Antique Gun Show Set At Temple Jan. 29, 30

The Smoky Mountain Gun Collectors Association is sponsoring a gun show Saturday and Sunday, January 29, 30, at the Kurbela Shrine Temple, Knoxville.

The quality show, open to the public, costs \$1, except for members of the SMGCA and their family, members of the National Rifle Association-affiliated gun collectors organizations, and Shriners wearing a fez, who will be admitted free. Parking is free and concessions, including breakfast both mornings, are available on the premises.

Energy Policy Series Is Slated

Six of the nation's most knowledgeable men on the issues surrounding energy policy will speak at an Oak Ridge National Laboratory seminar series between January 27 and April 6.

A seminar series titled "Issues Associated with the Use of Energy: Toward a National Energy Policy" has been scheduled at ORNL with the following objectives: 1) to inform the Oak Ridge community of the socio-technical issues associated with the use of energy, 2) to understand better the roles and views of different constituencies with regard to the major energy issues, 3) to place in perspective the various requirements which a national energy policy must satisfy, and 4) to identify ways in which ORNL can contribute to the solution of energy problems.

The schedule for the seminar series is as follows:

January 27, S. David Freeman of the Twentieth Century Fund, formerly Assistant Director for Energy and the Environment in the President's Office of Science and Technology. His talk will be preceded by a brief introduction of the series by ORNL Director Alvin M. Weinberg.

February 8, Philip Sporn, former president of American Electric Power Co. and frequent consultant to the AEC and Joint Committee on Atomic Energy on atomic power, whose experience in the electrical power field spans more than 50 years.

February 24, Dean E. Abrahamson, University of Minnesota scientist, who has been concerned with and often critical of existing energy policies.

March 9, Harry Perry, senior specialist in the Environmental Policy Division of the Legislative Reference Service, the Library of Congress.

March 23, Michael McCloskey, executive director of the Sierra Club.

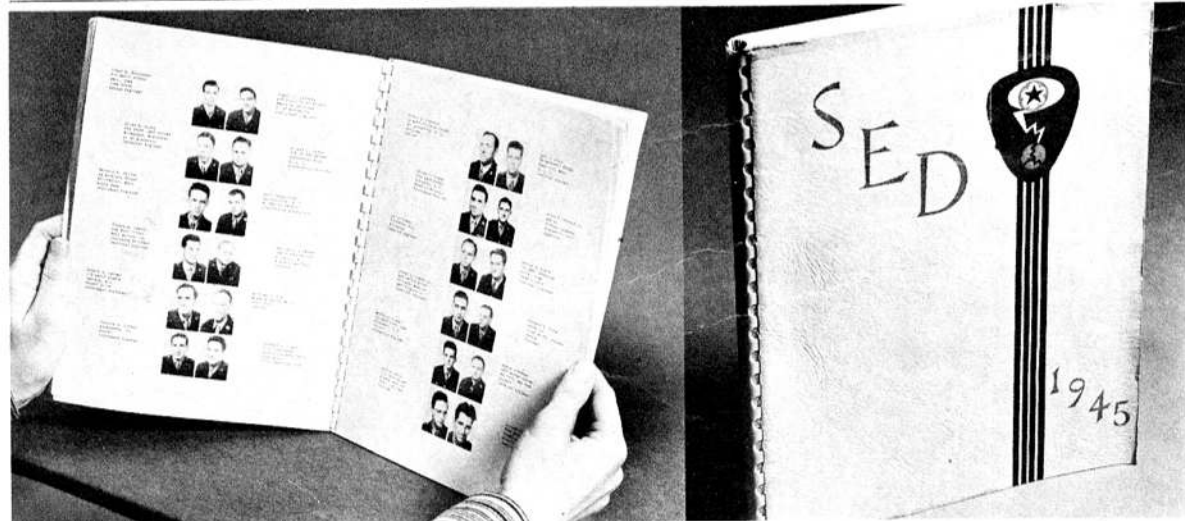
April 6, Joseph C. Swidler, chairman of the New York Public Service Commission, who has been active in both federal and state governments in the regulation of gas and electric utilities.

On **April 20**, the series' coordinators, ORNL staff members Eric Hirst and Don Steiner, will present a concluding seminar summarizing the previous discussions.

All seminars will begin at 3 p.m. in Central Auditorium of Building 4500 North on the indicated dates.

'MURDERS' TRYOUTS

The Oak Ridge Playhouse will hold tryouts on Monday, February 7, for roles in Jules Feiffer's "Little Murders." A total of six men and two women are needed for the comedy. Tryout time is 7:30 at the Playhouse in Jackson Square.



ENGINEERS FROM THE PAST—The start of it all, as far as Oak Ridge is concerned, centered around the Special Engineer Detachment of the U. S. Army in 1943. The above book was uncovered recently by Martin Skinner, Law Department, who was one of the early pioneers included in the Corps. Many Nuclear Division men began their Oak Ridge careers with SED.

NUCLEAR DIVISION NEWS



Published Every 3 Weeks For The Employees Of
UNION CARBIDE CORPORATION
NUCLEAR DIVISION

JAMES A. YOUNG, Editor

EXT. 3-7100

MARTHA GOOLSBY, Assoc. Editor

EXT. 3-6421

— Member —

APPALACHIAN INDUSTRIAL EDITOR'S ASSOCIATION
INTERNATIONAL ASSOCIATION OF BUSINESS COMMUNICATORS

OFFICE

POST OFFICE BOX Y, OAK RIDGE, TENN. 37830

Harms, Oakes, Spiewak, and Steiner Are Named to New ORNL Assignments

The new year begins with several organizational changes within the Laboratory. The changes, announced recently, involve William O. Harms, Lester C. Oakes, Irving Spiewak and Don Steiner.

William O. Harms has been appointed to the staff of ORNL Associate Director Donald B. Trauger as Manager of LMFBF Programs. A section chief in Metals and Ceramics Division, Harms has been serving in this capacity on a part-time basis. He first joined ORNL in 1953 as a metallurgist. He was Associate Professor of Metallurgical Engineering at The University of Tennessee from 1955-1960 as well as an ORNL consultant. He returned to ORNL in 1960 as head of the Ceramics Laboratory. Harms became section chief in 1966 and is also a lecturer at UT.

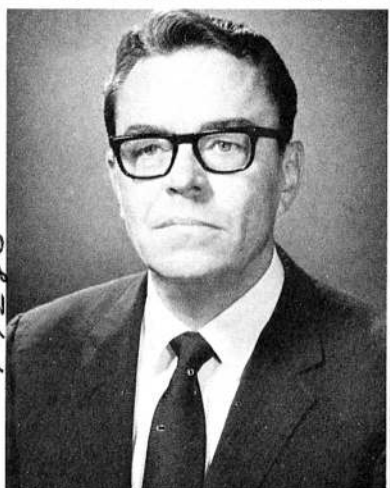
Harms received the B.S. from Wayne University in Metallurgical Engineering and the M.S. and Ph.D. in Physical Metallurgy from the University of Minnesota. A member of American Society for Metals, American Institute of Mining, Metallurgical and Petroleum Engineers, American Ceramic Society, American Nuclear Society, Sigma Xi and Tau Beta Pi, he has held both local and national positions with ASM and AIME.

Lester C. Oakes has been named Associate Director of the Instrumentation and Controls Division. He succeeds Charles S. Harrill who recently retired. Oakes joined ORNL in 1951. He will continue as head of the Reactor Controls Department in addition to his associate directorship. He received the B.S. and M.S. degrees in electrical engineering from The University of Tennessee. He is a member of the Institute of Electrical and Electronics Engineers.

Don Steiner of Reactor Division will serve as Coordinator of Fusion Reactor Technology Studies (FRT) for the Thermonuclear Division. He will be responsible for coordination of all work supported by controlled thermonuclear research funds in a number of ORNL divisions in addition to the FRT studies carried out in the Thermonuclear Division. He will also assist other ORNL divisions in becoming acquainted with the status of FRT studies and area of funding supported by other sections of the AEC's Division of Research.

Steiner joined ORNL's Reactor Analysis Group in 1967. He received the B.S., M.S. and Ph.D. degrees from Massachusetts Institute of Technology in Nuclear Engineering.

Irving Spiewak of Reactor Division will direct the Nuclear Desalination Program during R. Philip Hammond's assignment at UCLA, January through June 1972. He has been serving as head of engineering development in Reactor Division and the associate director of the Nuclear Desalination Program. Previous to his coming to ORNL in 1949, he received the B.S. in Chemical Engineering from Cooper Union and the M.S. in chemical engineering from Massachusetts Institute of Technology. He has served on committees of American Nuclear Society and the American Institute of Chemical Engineers and is a member of RESA and Tau Beta Pi.



William O. Harms



Lester C. Oakes



Don Steiner



Irving Spiewak

WANTED Rides Car Pools

RIDE from Kingston Pike (Bearden area) to any portal. Marsha Henegar, 3-6272.

TWO CAR POOL MEMBERS from vicinity of Waddell, West Outer, Pennsylvania or Utah to East or North Portal, 8:15 a.m. Tom Burnett, 3-6939 or 483-1975.

CAR POOL MEMBERS from UT area to South Portal, 8:15 a.m. Dick Snyder, 3-1922 or 522-0940.

RIDE from 210 N. Purdue to East Portal, either shift. Patricia Field, 3-1247.

Three Named Staff Members of UNISOR

Three appointments to the staff of UNISOR (the University Isotope Separator — Oak Ridge) have been announced by the executive committee of the new group. It was formed to carry out advanced fundamental research on nuclear structure using facilities that are being developed in association with ORNL's Isochronous Cyclotron.

UNISOR is a cooperative venture jointly supported by the AEC, ORAU and a group of 11 universities. The facility is located at ORNL, Building 6000 which houses the cyclotron. The project will involve the addition to ORIC, early this year, of an on-line electromagnetic isotope separator.

Eugene H. Spejewski, presently on the faculty of the Department of Physics at Oberlin College, is UNISOR's first director. His appointment becomes effective in June. During the interim he will serve as consultant to the project.

Alfred C. Rester Jr., a scientist with the Technische Houschool, Delft, The Netherlands, joined the project as an associate scientist in October. He will continue through next April, when he returns to Europe.

Ronald L. Mlekodaj has joined the project as scientist with UNISOR following his recent graduation from Florida State University with a Ph.D. degree in nuclear chemistry.

Beaver, Easton Named Toastmasters' Officers

Two new officers in the Fountain City Toastmasters Club are metallurgists in Metals and Ceramics Division. Installed as president on January 7 was Richard Beaver and as editor was Dewey Easton.

The club meets every Thursday night at 6:30 at the S&W Cafeteria in Knoxville.

George Kirkley, Biology, Rites Held December 28

We extend sympathy to the family and friends of George R. Kirkley who died December 23 at University Hospital in Knoxville. An ORNL employee for over 20 years, Mr. Kirkley was an animal facility worker in Biology Division.

Jarnigans of Knoxville conducted funeral services which were held on December 28. He is survived by his wife Bessie. The family home is located at 511 Ben Hur Avenue in Knoxville.



Mr. Kirkley

Oak Ridge National Laboratory

ORNL Editor Martha Goolsby
extension 3-6421

Thermal Conductivity Award Given McElroy

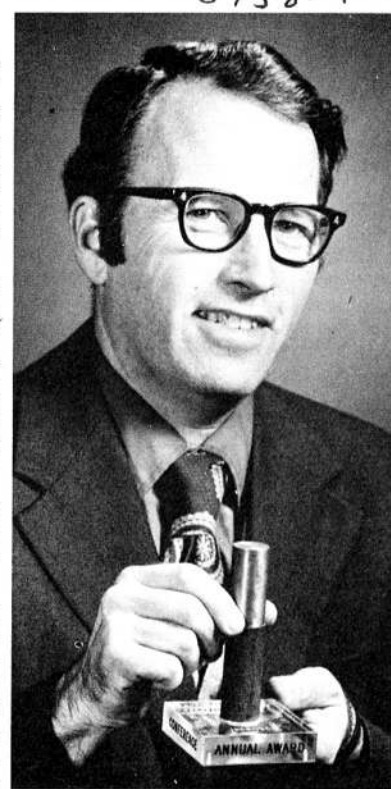
David L. McElroy, Metals and Ceramics Division, is the winner of the second Annual Thermal Conductivity Conference Award for outstanding contributions toward the understanding of how materials conduct heat.

He is a group leader of the Physical Properties Group of the division.

The award is in the form of a traveling trophy containing a segment of an iron sample used as a standard in the measurement of thermal conductivity. Recipients' names are inscribed on the base.

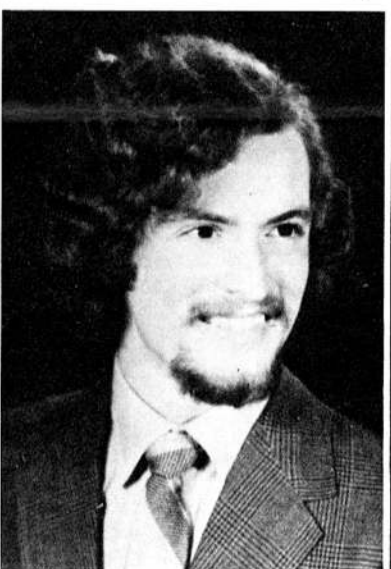
The award was made at the Eleventh Thermal Conductivity Conference held recently in Albuquerque, N. M.

McElroy's group is seeking an improved theoretical and practical understanding of heat transport and thermophysical properties of solids by analysis of accurate properties measurements from 1.2 degrees K to 2,600 degrees K on a spectrum of solids. This group is noted for its work on metals, alloys, semiconductors and insulators.



David L. McElroy

Trauger Son Earns Rhodes Scholarship



Byron R. Trauger

Byron R. Trauger, son of ORNL Associate Director Donald B. Trauger, has been named one of 32 American recipients of this year's Rhodes Scholarships.

Trauger attended the Oak Ridge schools before he went to Duke University. He graduated from there magna cum laude last June. Presently he is studying at Yale Law School.

Rhodes scholars study at Oxford for two years, or, under special circumstances, for three years. While there Byron hopes to complete requirements for a bachelor of philosophy degree in either Latin American affairs or politics, philosophy and economics. He will take a leave of absence from Yale and intends to return to finish his law degree.

He was a National Merit Scholar at Oak Ridge High School and also the recipient of a Rotary International Scholarship for study at San Marcos University in Lima, Peru, in 1969.

Rhodes scholarships were set up by Cecil Rhodes, a South African diamond millionaire, about the turn of the century.

January Retirees Include Six More ORNL Staffers

Ten ORNL employees will be taking normal or early retirement at the end of January. In the preceding issue of Nuclear Division News Katherine Hipshire, Pollye Larue, Oscar McClendon and Garner Walker were featured. Among them, the ten total over 209 years of company service. Following is a glimpse of the six not included in the last issue.

You'll miss Doris Coughlen next time you call Health Division. She won't be there after January 31 to make an appointment for you or give you instructions on how to proceed with your physical. She leaves after 19 years of service.

John A. Kaserman came to ORNL in January 1950. He is a design engineer in General Engineering Division. His address is Route 1, Lakewood Drive in Jefferson City.

Douglas A. Ross is a research staff member of the small medical instrument group of the Molecular Anatomy Program. He came to ORNL in June 1963 and lives at 214 N. Purdue in Oak Ridge.

Marjorie Shipe, who joined ORNL in August 1948, is a library specialist in Information Division. She lives at 5412 Dogwood Road in Knoxville.

Ervin I. Prim, a stores attendant in Plant and Equipment Division, has been at ORNL since October 1955. He lives at 8612 Kingston Pike in Knoxville.



Prim

Felts

Hugh E. Felts is a maintenance foreman in Plant and Equipment Division. He has been at ORNL since May 1955 and lives at 100 Niagara Lane in Oak Ridge.

CU REMINDER

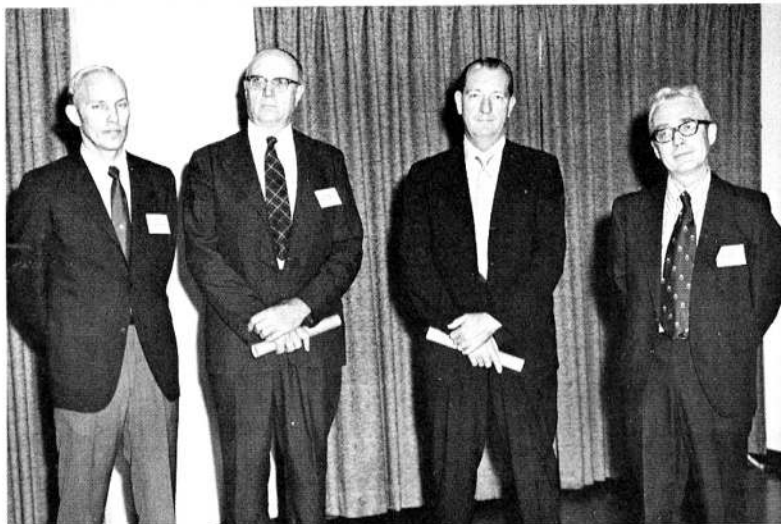
Don't forget the ORNL Credit Union's annual meeting on January 31 at 7 p.m. at the Civic Center in Oak Ridge. Prizes galore.

"Success is the reward for accomplishment."—Harry Banks

Oak Ridge Y-12 Plant

Y-12 Plant Editor James A. Young
extension 3-7100

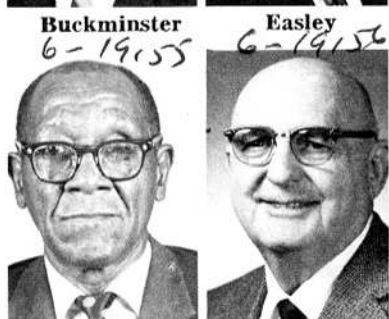
71-1450



MORE Y-12ERS CERTIFIED—Four more Y-12 engineers were certified as Professional Engineers recently in ceremonies in Oak Ridge. From left are Ray Daugherty, Harold Duncan, Ken Cook and Jim Parsons.

Ten Veteran Y-12ers

To Retire January 31



Knaff **Wallace**

Four Y-12ers retire at the end of January, and six elect early retirement, many taking with them in excess of 25 years company service.

Hartford E. Buckminster, Dimensional Inspection; George S. Easley, Dispatching; Robert Knaff, Buildings, Grounds and Maintenance Shops; and Percy K. Wallace, Dispatching, all are taking normal retirement.

Leaving early are James F. Blount, Buildings, Grounds and Maintenance Shops; Robert L. Carpenter, Research Services; Arthur W. McGinnis, Mechanical Inspection; Carl F. Pirkle, Process Maintenance; and Ernest C. Rambo, Materials Forming.

Hartford E. Buckminster hired in at Y-12 January 24, 1944, transferred to ORGDP in 1949, and back to Y-12 in 1958.

A native of Champaign, Ill., he has a B.S. degree from Southeast Missouri College, and an M.S. from the University of Missouri. He has also done graduate work at the University of Illinois and The University of Tennessee. He taught school, and did engineering work at Weldo Springs, Mo., and Kingsport, Tenn. before coming to Oak Ridge.

The Buckminsters live at 506 Delaware Avenue, Oak Ridge. The retiring engineer says he and Francelle will continue to live in Oak Ridge.

Easley

George S. Easley was born in Centerville, Tennessee. He served in the U. S. Army from 1942 until 1945, and was with the Tennessee Products, Nashville; and the Caterpillar Tractor Company, San Lorenzo, Calif., before coming with Union Carbide August 13, 1951.

Mrs. Easley is the former Juanita Hendon, and the couple lives at 116 Marshall Circle, Oak Ridge.

Knaff

A native of Oliver Springs, Robert Knaff worked in mining before coming with Union Carbide August 31, 1944.

He lives at Route 3, Oliver Springs. His wife, the former Flossie Hall, died in 1963.

Wallace

Percy K. Wallace, was born at Watauga, and presently lives at Route 5, Lenoir City. He attended Murphy College, Sevierville.

Mrs. Wallace is the former Margaret Robbins, and they have a son, John.

The retiring Wallace worked in sales in Johnson City and Cincinnati; and with J. A. Jones and Maxon Construction, in Oak Ridge, before coming with Union Carbide.

Company Service

25 YEARS

Joel F. Jennings
Merel L. Garrison
Elmer I. Clark
Jesse C. Sims
Ernest L. Pugh
John M. Johnson

Credit Union Meeting Tonight in Oak Ridge

The annual meeting of Y-12's Credit Union will be held tonight, January 27, at 7:30 p.m. at Robertsville Junior High School, Oak Ridge.

A total of three board members must be elected, plus a member of the credit committee. A report of 1971 activities will be heard, and dividends will be declared.

There are lots of door prizes, too, but you have to attend the meeting to be eligible for the drawings.

Virgil Perry Victim Of Knox Auto Mishap

Virgil L. Perry, Y-12's Area Five Maintenance, died January 8, from injuries sustained in an automobile accident in Knoxville.

Mr. Perry came with Union Carbide June 25, 1954, after working with The Pullman Company. He served in the U. S. Navy from 1943 until 1944. He was a native of Atlanta, Ga.

Survivors include his wife Mrs. Mary Louis Perry, Hazel Nut Drive, Knoxville; daughters, Mrs. Shirley Taylor, Atlanta; and Mrs. Jane Chandler, Knoxville; and a son, Wayne Perry, Knoxville; mother, Mrs. R. L. Perry, Lake City, Fla.; sisters, Mrs. Audrey Lockhart, Hollywood, Fla.; Mrs. Virginia Bryant, Atlanta; Mrs. Ina Perry, Jacksonville, Fla.; Mrs. Frida Poteat, Atlanta; and brother, Farris Perry, Smyrna, Ga.

Funeral services were held at the Horace Ward Funeral Home, Atlanta, with burial in Westview Cemetery there.

6-19152



PRIZEWINNING CATCH—Carolyn McDonald, Dispatching, proves that women can catch just as big ones as the men can! This handsome crappie took second place in Y-12's annual contest. Women employees are not only eligible to participate in the fishing contest, but so are spouses (husbands, or wives of employees) as well as off-springs who live at home. Carolyn caught this one back in early 1971 in Watts Bar Lake.

Retiree Green Lands Biggest Catch As 1971 Fishing Rodeo Winners Told

A Y-12 retiree, Elmer Green, caught the biggest fish in the 1971 rodeo, according to Recreation ... a 27-pound muskie! A total of 10 categories saw winners galore, as the successful season drew to a close. Competition this year will be between the three Oak Ridge plants, and will include spouses and children at home.

Entry blanks are scattered throughout the three plants, or are available from each Recreation Department.

Y-12's 1971 winners were:

LARGEMOUTH BASS

1. Harry Conner
2. Lavoy Lane
3. Jack W. Schaefer, Jr.
4. Ralph Cottongim

SMALLMOUTH BASS

1. Dwight L. Morrow
2. Lamar R. Benker
3. Elmer E. Green
4. Arnold K. Craft

STRIPED BASS, HYBRID ROCKS

1. Harrell D. Morris

2. George S. Ferrell

BREAM, BLUEGILL

1. John S. Orr
2. Carolyn McDonald
3. Sidney R. Anderson
4. Ronald D. Dickinson

MUSKIE

1. Elmer E. Green
2. Clifford B. Russell

ROUGH FISH

1. Charles B. Davis
2. Clarence E. Hawks
3. Henry Benninghoff

PIKE, SAUGER

1. James W. Graves
2. Paul G. Maples
3. James W. Graves
4. Kenneth D. Smith

PIKE, WALLEYE

1. Frank A. Stewart, Jr.
2. Lewis M. Denman
3. Luther Thurman, Jr.
4. June E. Ellis

TROUT

1. Joe A. Jackson



COMPLETE COURSE—Eleven employees from Dimensional Inspection and one from Quality Liaison recently completed a course in "Concepts of the True Position Dimensioning System." Above, they receive their certificates with Richard C. Green, Dimensional Inspection Engineering department head, and Hartford E. Buckminster, course instructor. Seated from left are William A. Miller, William A. Maddux, Marvin Scott, Jr. and Rickie A. Hamilton. Standing are Green, Joseph A. Mallard, Earl E. Goodman, John W. Smith, H. G. Crigger (from Quality Liaison), Denver S. Watts, Charles E. Wuest, Paul A. Emerson, Joseph T. Wylam, and Buckminster.

WANTED

Rides Car Pools

Rider wanted from Bearden section, Knoxville, down Middlebrook Pike, to any portal, straight day. A. P. Brown, plant phone 3-7887, home phone Knoxville 584-1273.

Car pool member wanted from Maynardville, via Halls Cross Roads, to any portal, Y-12, straight day. Leslie Shular, plant phone 3-5086, home phone Powell 947-6449.

SAFETY SCOREBOARD

The Y-12 Plant Has
Operated
96 Days Or
3,355,000 Man-Hours
(Unofficial Estimate)
Through January 23
Without A Disabling Injury
SAFETY AT HOME,
AT WORK, AT PLAY

4173 - 5



RECOGNITION AWARDS — Plant Superintendent Robert A. Winkel presents recognition awards to Paducah employees for their outstanding contributions to the Cost Reduction Program. Robert F. Smith and Robert E. Jessing were the most recent recipients of the awards. From left are Robert W. Levin, Laboratory Division Superintendent; Smith, Winkel, Jessing, and John L. Clark, Operations Division Superintendent.

'Snip-and-Take' Credit Now Available To Paducah-Heath-Symsonia Movers

Tom Brewer, manager of the Paducah Exchange of South Central Bell Telephone Company, has announced that Paducah employees may "snip-and-take." That is, if an employee moves from one location to another in the Paducah-Heath-Symsonia area serviced by the Paducah Exchange, he may take his telephone set with him to the new location. A \$3 credit will be given at the new residence, for the "snip-and-take" efforts.

The Paducah Exchange is the only facility in Kentucky that has been authorized to put this unique plan into operation, and apparently is acting as a pilot program. Brewer emphasized that there is not enough electrical current on the lines to injure anyone and that wall and pen telephone sets are excluded from the plan.

Here is how it works: When you are changing addresses, call the Telephone Service Department to transfer your number. You will be asked to cut the cord

and take the instrument with you if the move is within the Paducah-Heath-Symsonia area. If you perform this simple task a \$3 discount will be included on your next bill. Not bad for a Snip-and-Take operation.

'LSD' Film To Be Retired After Multiple Viewings

Our drug usage film has been retired from service. Rarely, if ever, has a worn out film been a subject of interest, or an item of news. However, that is exactly the case with the Film "LSD" purchased for employee use in learning how to identify, and what happens when drugs are abused.

After each employee had seen the film, it was made available to schools, churches and service groups. Approximately 14,000 people, young and old in the Paducah area, have seen this film, before its "forced retirement."



GOOSE FEATHERS—Gus Legeay and son Steve, right, are seen with four of the fat geese they took home from a recent hunt on the Ballard County Wild Life Refuge. The area is just west of the Paducah plant. Gus, Jr., who took the photo also bagged two of the big Canadian birds.

New Breeder Reactor Booklet Is Available

A new booklet describing current research and development programs for breeder reactors, the nuclear reactors that produce more fuel than they consume, has been published by the Atomic Energy Commission's Division of Technical Information Extension (DTIE) as part of its "Understanding the Atom" series.

Entitled "Breeder Reactors," the 47-page booklet discusses the various kinds of breeder reactors, early achievements in their development, and current development programs underway in the U. S. and abroad.

Robert L. Shannon, DTIE Manager, said the new booklet is the 54th publication in DTIE's "Understanding the Atom" series which was begun in 1962.

Legeays Bag Geese On Ballard Refuge

Engineering's Gus Legeay says "you Tennessee bird hunters, eat your heart out!"

A crisp dawn after Christmas saw Gus, Gus Jr. and Steve in a goose blind in the Ballard County Wild Life Refuge, just a few miles west of the Paducah plant. Just a short time later the three emerged with six (two each) of the fattest Canadian geese you ever saw.

The particular day was a hunter's dream, according to Gus. The blind was located in a field that had never been shot over, and the geese had not been disturbed for three days prior to the hunt. Gus says that when the first flight moved from the nearby slough, the thousands of geese and ducks were so intermingled that they were unable to shoot because they were afraid that a duck might accidentally be shot. (A duck may not be killed from a goose blind.)

It is also worth noting that Gus killed his two beauties with just one shot!

Paducah Gaseous Diffusion Plant

Paducah Editor Keith Bryant
extension 369

Who's This?

Who in the world?

From time to time, readers of Nuclear Division News will have an opportunity to identify one of their fellow employees by silhouette. It is obvious that this first one is a female. She is well known for having a mind of her own, but then aren't all women known for the same reason?

If you think you know who this is, just drop a note to the editor, or call him on PAX 335. If he's not in just leave your identification with whoever answers the phone.

The first five producing correct identifications will be published in the next issue of ND News.



College Courses Set In Paducah Environs

The graduate council of Murray State University has approved a non-thesis option for the M.S. in chemistry for those with at least two years of approved experience in industrial or governmental laboratories.

This should make it possible for many plant employees to earn the required 30 semester hours of course work necessary for the degree by attending classes on a part-time basis. During the spring semester Chemistry 666, Polymer Chemistry (two semester hours) will be offered from 7 to 9 p.m. on Thursday on the MSU campus. Other courses will be offered in the future as the need arises.

Additional information may be obtained from: Pete Panzera, Chairman, Department of Chemistry, Murray State University, Murray, Ky. 42071.

The Joint Technical Society of Western Kentucky Continuing Education Committee is presently sponsoring courses in Engineering Law, International Marketing, Business Policies and Principles of Finance on the Paducah Community College campus and is soliciting statements of interest in non-credit short courses of EIT Refresher and Statistics for Problem Solving and Decision Making.

Anyone interested in participating in these short non-credit courses should contact A. J. "Gus" Legeay or Dan Stitt.

SEAT BELTS

Seat belts are now available to about four out of five of all passenger car occupants, but they are being used only by 40 per cent of the travelers, according to studies. It is believed seat belts could save from 8,000 to 10,000 lives a year, if they are used.

FAMOUS ATOMIC SCIENTISTS

1888-

OTTO STERN

SERVED GERMANY AS A SOLDIER IN WORLD WAR I - BUT REFUSED TO AID HITLER'S WORLD CONQUEST PLANS - IN 1933, HE FLED TO AMERICA AND ACCEPTED A PROFESSORSHIP AT CARNEGIE TECH

1912-1924 A PROTEGE OF ALBERT EINSTEIN

THEY WORKED TOGETHER AT THE UNIVERSITIES OF PRAGUE AND ZURICH

EARLY IN HIS CAREER...

HE CONTRIBUTED TO THE JET AGE WITH HIS STATISTICAL THERMODYNAMICS STUDIES

GERMAN-AMERICAN PHYSICIST — HIS DEVELOPMENT IN THE MOLECULAR BEAM METHOD PROVIDED A NEW AND POWERFUL TOOL IN THE STUDY OF MAGNETIC PROPERTIES OF ATOMS AND MOLECULES. HE PROVED THAT MOLECULAR BEAMS ACTED AS MAGNETS AND FOUND WAYS TO MEASURE THEIR PROPERTIES. FOR THIS RESEARCH, HE WON THE NOBEL PRIZE IN PHYSICS IN 1943.

Oak Ridge Gaseous Diffusion Plant

ORGDP Editor Doug Carter
extension 3-3017

25 Year Veterans



R AIKEN JR C R BENSON K H COX



B B DOUGHTY A ESTES L A GREENE



R J MAGYAR M R MOURFIELD R S NELSON

'Assessment Center' Topic for Joe Bender



Joseph M. Bender

Joseph M. Bender, ORGDP Industrial Relations, spoke to the Roanoke, Va., Training and Development Association, January 26, on ORGDP's "Assessment Center." The center has been operational since 1968.

Leadership behavior or effective supervisory behavior is observable, analyzable and not at all mysterious. In this respect, the Assessment Center is an excellent method of identifying managerial ability and potential and its use is rapidly expanding throughout the country. Through the use of simulation, the operation of an

Assessment Center places candidates in standardized performance situations where strengths and weaknesses important to supervisory management can be identified by experienced and successful supervisors. Subsequently, individual development programs can be established and implemented that result in planning for future managerial requirements.

The ORGDP Center is operated over a two-day period. The first day, six candidates perform simulated exercises related to work situations. Their performance is observed and evaluated by a panel of six successful and experienced supervisors who meet a second day to finalize their evaluations and make individual development recommendations on those evaluated.

SAFETY SCOREBOARD

ORGDP

Has Operated

**168,000 Safe Hours
Through January 29**

Since last disabling injury January 7



WILL JOIN CAR POOL from East end of West Outer Drive, Oak Ridge, to Portal Five, ORGDP, Straight Day. Craig Schmidt, plant phone 3-9369, home phone Oak Ridge 482-4148.

CAR POOL MEMBER wanted from Cedar Bluff area, Knoxville, to main portal, 7:45-4:15 shift. Bill Harber, plant phone 3-9259, home phone Knoxville 693-0435.

20 Years' Service

Robert C. Horton
Edward M. Zukowski
Evelyn M. Bostic
David E. White
John C. Human
Willis E. Muldrew
Willard C. Brock
Clarence L. Arnswine
Elizabeth R. Williams
Evelyn P. Oswald
Leonard H. Edmonds
Warren F. Brown
Jack D. Brannon
Francis J. Moran
Elizabeth M. Farris
John T. Reeve
Ralph E. Patterson
Benjamin L. Fike
Ernest F. Brown
Isio K. Namba
Lonnie M. Fussell
Ralph P. Lukat
Noble H. Liles
William C. Burnette
Charles L. Jackson
James E. Childs
Billie E. Martin

ATTENTION ANGLERS

Watch the next issue for winners in the 1971 Fishing Rodeo for ORGDP. Rules have been changed for this year, as competition will include all three Oak Ridge plants. Members of the immediate family are eligible... no photos required.

Field, Overton Set Retirements Monday

Two veteran ORGDPers retire January 31. Leaving are Robert B. Field, Building Maintenance; and James M. Overton, Utilities Operations. Both came here when the plant was young.

Robert B. Field, a native of Knoxville, lives at Route 18, Crosslane Road, there. He came



Field

Overton

to ORGDP November 16, 1945. He is a veteran of the U. S. Army, and followed construction work before coming with Union Carbide. He served in the Army from 1942 until 1945.

Fishing, hunting and gardening occupy much of his spare time. He plans to rest a while, and fish a lot, he says.

Mrs. Field is the former Leita

Bomar, Johnson, Sipe Named Safety Analysts; Patton, Associate Engineer



Thomas B. Bomar 723



Charles L. Johnson 71-2206



John T. Patton



Loy H. Sipe

Four new job assignments have been announced recently in the Oak Ridge Gaseous Diffusion Plant's activities. Thomas B. Bomar, Charles L. Johnson and Loy H. Sipe have been named analysts in the Safety, Health Physics, and Industrial Hygiene Departments; and John T. Patton has been named an associate design engineer in the Instrument Department.

Thomas B. Bomar, a native of Bell Buckle, Tenn., came with ORGDP December 8, 1950. He was self-employed in dairy farming before coming here.

The Bomars live at 4420 Landon Drive, Knoxville. Mrs. Bomar is the former Peggy Ann Hawkins. They have three children, Ricky, Tommy and Lisa. Bomar likes to work with kids and enjoys outdoor activities such as hiking and camping.

Charles L. Johnson

Charles L. Johnson holds a B.A. degree in physics from Fisk University. He was born in Clarksville, Tenn., and came to ORGDP two years ago.

He is married to the former Beverly Floyd, who will complete her work at The University of Tennessee in June required for a master's degree in social work. They live at 1402 Highland Avenue, Knoxville.

Johnson enjoys elementary particle physics as a hobby.

John T. Patton

A native of Maryville, John T. Patton, came with ORGDP December 7, 1969, shortly after his graduation from UT.

Single, Patton lives at 612 Lakeshore Drive, Kingston. He enjoys bowling, basketball, coin collecting, fishing and hunting.

Loy H. Sipe

Born in Hickory, N. C., Loy H. Sipe came with Union Carbide back in 1945. Before coming with ORGDP, he worked with the North Carolina Ship Building Company, Wilmington.

The Sipes live at 418 New York Avenue, Oak Ridge. Mrs. Sipe is the former Thelma Hall. They have three children, Eddie, Nashville; Kay, in Clearwater, Fla., and Susan, Atlanta.

Sipe's outside interests include golf, and a four-month-old grandson.

Breast Cancer Conference Set Feb. 3 in Oak Ridge

The Anderson County Unit of American Cancer Society is sponsoring a special conference on breast cancer. Scheduled for 7:30 p.m., February 3, the seminar will be held in the Little Theater, New Jefferson Junior High School, Oak Ridge.

Drs. Robert Bigelow and James R. Guyton will be the speakers, and special speaker will be Mrs. Curtis Thomas, who will discuss post-mastectomy rehabilitation.

All interested women are invited to the meeting.

Crawford. They have one daughter, Donna.

James M. Overton

Born in Sedalia, Tenn., James M. Overton came to ORGDP June 26, 1944. He attended Maryville College and Lincoln Memorial University, and worked with the Tennessee Valley Authority and Stone and Webster before joining Carbide.

Mrs. Overton is the former Margaret B. Cassell. They live at 316 Queen Street, Harriman.

Fishing and hunting are great hobbies of Overton. He plans to begin a new career in his retirement by taking a refrigeration course at a vocational school. First, the Overtons plan a six weeks trip to the midwest, visiting in Kansas, Nebraska, North and South Dakota and Minnesota.

Memory Loss

Inevitable Cost of Aging

By T. A. LINCOLN, M.D.

Memory loss begins at age 25, sometimes becomes a nuisance at 50, often an embarrassment at 65 and occasionally a complete disability at 80. Many of the practical effects of this loss are preventable and some day part of the loss itself may be treatable.

The complexity of the memory process is staggering when one considers that there are probably 10,000 synaptic points on a single neuron. A synapse is a connection between two adjacent neurons through which a nervous impulse can pass. Since there are hundreds of millions of neurons, all of them interrelated, the possible combinations are almost limitless. The human brain makes the biggest computer look almost like a toy.

The study of memory is complicated by the different meanings of the word memory. One research definition used by Dr. Eric Turner of the Department of Neurosurgery of Queen Elizabeth Hospital in Birmingham, England, divides memory into three phases: memory of a current experience, the consolidation of memory especially over the first hour but continuing for five hours and recall while consolidation is occurring, and later after consolidation has been completed.



A portion of the under side of the brain called the hippocampus is essential for memory. It contains innumerable "switches" which direct nervous impulses or memory traces to other locations where they are sorted and stored.

Memory Traces

As everyone knows, remembering is more difficult if there are numerous distractions during the learning process. The hippocampus apparently protects memory traces during the crucial stage of their consolidation.

If the hippocampus is removed or destroyed surgically, consolidation is extremely poor, making early recall impossible. Past memory in the "memory bank" is not destroyed but storage and recall of new thoughts are severely disturbed.

Easy To Forget Minor Things

As a person gets older, his hippocampus becomes less versatile and, as Dr. Turner says, "A man is as old as his hippocampus." It used to be said that a man was old as his arteries. Impairment of circulation to the hippocampus specifically, and to the brain in general, greatly accelerates decline in memory. However, even with adequate circulation, gradual deterioration occurs.

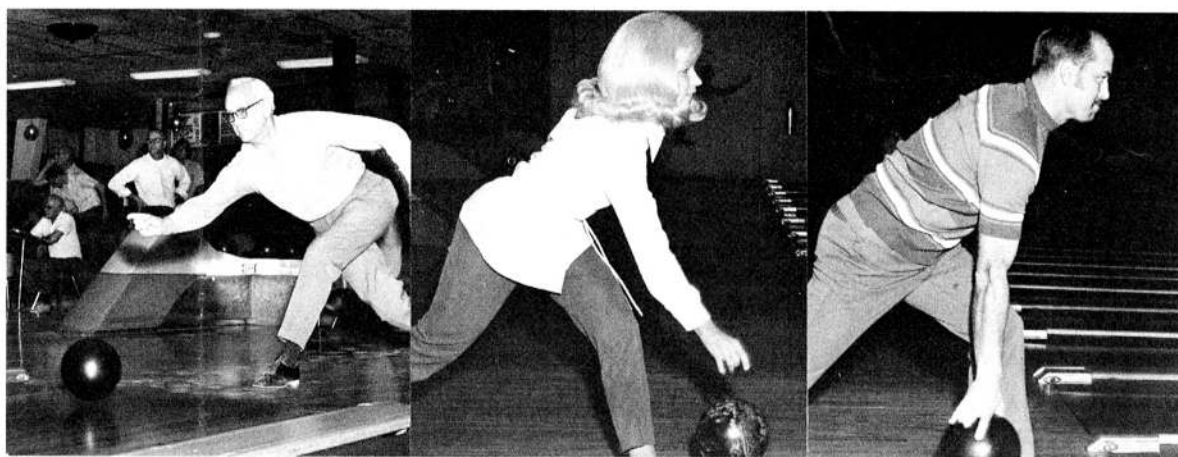
The earliest loss is usually a decreased ability to remember recently acquired information, especially if it seems to have little significance for us. When we are busy and have many things on our mind, it is easier to forget minor things.

As we get older, we are much more vulnerable to distraction during both the learning process and recall. We also find that the number of new thoughts that can be imprinted firmly for later recall is limited.

Early Memory Patterns

Characteristically, an aged person can often recall events of his childhood in great detail but seems unable to recall a conversation held only an hour ago. The early memory traces were firmly imprinted when the brain was young and can be recalled by using numerous associations established with the original experience. The hippocampus is not necessary for this part of memory. However, establishing new memory traces requires the hippocampus and may no longer be possible because of deterioration.

Probably the best way to prevent memory loss is to devote greater effort to get thoughts established. Dr. Jeanne Gilbert, psychologist who has studied memory for over 30 years, says that the difficulty older people have in learning is not so much due to their inability to concentrate long enough to receive new impressions, but in their inability to integrate and store new data. Once the memory trace is firmly established, it can be recalled. Thus, as a person gets past 50, he needs to develop techniques to help him get bits of information imprinted on his brain.



ALL-CARBIDE BOWLERS—Bowlers in the Oak Ridge area have set aside the weekends of February 26, 27 and March 4, 5 as big tournament dates for competition among the three plants. From left, above, Charlie Jackson, Carolyn Miller and Carlos Brooks display form that could win honors for them in the big show. Entries are now available from bowling secretaries and the three Recreation Offices.

February 26, 27—March 4, 5 Bowling Tourney

Saturday and Sunday, February 26, 27 and March 4, 5 have been set aside by Carbide bowlers in the Oak Ridge area as big tournament dates. Competition this year will be among the three installations, and will feature men and women teams, doubles, singles and mixed doubles.

Deadline for entering the competition is Friday, February 11. Money and entries must be in any of the three Recreation Offices by then. ORNL's Recreation Department

is in Room K-113, 4500 N. Y-12's in 9711-5; and ORGDP's in Building K-1001, C Wing.

American Bowling Congress and Women's International Bowling Congress rules will govern the tournament.

Entry fee is \$3 per person per event. An additional 50 cents fee will qualify a bowler to compete in the All-Events handicap prize money. All prize money will be returned 100 percent to bowlers.

Prize money will be awarded

on a handicap basis only. A handicap is determined as 70 percent of the difference between 200 pins per game and the bowler's entering average.

The board of directors, governing the tournament, include: Ruby O'Kain and Bill Ladd, Y-12; Harold Gunter and Mary Foley, ORGDP; and Carolyn Miller and Bob DeBakker, ORNL.

Questions may be referred to the Recreation Office, extension 3-6723.

ORGDP BOWLING

In the Men's Tuesday League Ed Felte took honors with a 235 scratch and 260 HCP. High series went to J. H. Peer with a 575 scratch and a 650 handicap.

Betty Kemper of Women's League was Bowler of the Week. She rolled a 509 scratch series consisting of a 153, 178 and 178. Her handicap series was 620. Mary Bailey rolled high HCP game of 224 and high HCP series of 628. Bowlettes took high team series with a 2,152.

Stan Finch opened up the new half in the Wednesday League with a 223/253 game and a 563/653 series. High team series went to the Pirates with a 3,035.

Many years ago, Dr. Gilbert suggested several practical ways to improve memory. She advised adopting a methodical habit of jotting down things one wants to remember and making notes on experiences or thoughts which occur during the day. They should then be reviewed at the end of the day. She urged remaining as independent and self-sufficient as possible. Depending on a wife or secretary to remember too many things can be dangerous. Keeping active mentally is essential. Practicing learning helps keep the "switches" open.

Recently propranolol, a drug used in the treatment of the arrhythmias of heart disease, has been found to improve learning. It apparently diminishes the "automatic end-organ arousal", in other words, the "static" in the brain which interferes with learning. Other pharmaceutical helps will be found as the neurophysiology of learning and memory are better understood.

Dr. Jack Weinberg, of the University of Illinois College of Medicine in Chicago, has written a reassuring comment on memory, "To remember requires an expenditure of psychic energy which the aging individual is loath to fritter away. Should the happenings of the present be especially gratifying or important to the unity of the person, they will not easily be forgotten."



SPORTS NOTES



ALL-CARBIDE

Hey, roundballers, something's got to give. Through January 12 play, with more than half of the season behind them, three teams were still undefeated. In the Atomic League, undefeated are the CC 69'ers and the GBU's. They are followed by the Computes, Shoestrings, Isomets, Uclans, James Gang, Bottlenecks, Bombers, TAT Playmakers and TAT Heartbreakers. In the Nuclear League the first place Carbide Trojans are undefeated, followed by the Dunkers, Pistols, A-5 Bucks, Deadeyes, Energetics, Depleteds, Butterfingers, Mustangs, Turkeys and Ail Stars.

At the beginning of their new half, Carbide Family Mixed Bowling League leaders are the Pinsetters, Tears & Beers and Oops. Following them are Magic Markers, Dare Devils, Lo Balls, Upsets, Coasters, Team No. 5 and 4 C's.

Female employees, or employees' spouses interested in playing volleyball or basketball on Tuesday nights should contact the Recreation Office, ORNL. If enough interest is shown, teams will be organized.

BOWLING—Y-12

The Badgers have grabbed an early lead in the C League, with 12 wins, no losses, trailed by the Rollmasters with a 10 and one-half, one and one-half record. Bill Ladd and Tom Hillard have tied for high games thus far in the league, 237 each!

The Classic League finds the Eightballs and Playboys locked in deadly struggle, with seven wins-one loss records. Travis Craig recently put a 237 scratch game up for the other keggers to shoot at!

The Roses 'n Thorns lead the Mixed League in Y-12 bowling, with 11 wins, 1 loss, so far. Next come the Alley Cats, trailing by one; then the Cougars, behind them by one. Wanda Sewell, Roll-

ers, rolled a 222 scratch game recently . . . and a 670 handicap series!

ORNL BOWLING

ORAU team of A League rolled a 2,946 for high team series in January 10 play. Tom Kitchings' 638 copped high series honors for the Good Guys. Individual honors went to Don Hurtibise of ORAU for his 249 handicap and Bob Forde, Ten Pins, for 225 scratch.

The Alley Rads of C League really blew the lid off to open the second half. Included in the 3,131 series was a team game HCP score of 1,155. B. G. Bowers had a 676 HCP series and a 607 scratch. Other honors going to Alley Rads were Carlos Brooks' 282 HCP game and E. F. Roy's 247 scratch game. How about it, the rest of you teams. Let's see you in the honors column.

E League's Limits sewed up high series with a 2,891 and Thoms of that team took high individual series with a 639. Two members of the Mets team garnered the individual honors, Craig with a 249 HCP and Barton with a 207 scratch.

The Pick-Ups of ORNL Ladies League picked up high team series with a 2,212. Individual honors went to Sandy Beidel of Pick-Ups with a 170 scratch game and a 478 scratch series. High game with handicap went to McDowell of the Hi-Balls.

ORNL FISHING

Fourth quarter fishing rodeo winners have been posted. Bringing home the biggest fish in each category in the ORNL competition were: David Carroll, largemouth bass; G. E. Pierce, smallmouth bass; James Ramsey, bream; R. G. Shooster, crappie; Thomas Muncy, rough fish; T. A. Watson, sauger; W. J. Martin, stripe bass; W. G. House Sr., trout; and W. T. Bostic, walleye. See the bulletin boards for other winners.

BULK RATE
U.S. Postage
PAID
Union Carbide
Corporation

UNION CARBIDE CORPORATION
NUCLEAR DIVISION
P. O. BOX Y, OAK RIDGE, TENNESSEE 37830



Primitive Peoples Seen in AEC Film

A unique motion picture describing the field techniques used by a team of specialists in the study of a primitive Latin American Indian culture is now available for loan to the public from the Atomic Energy Commission.

The 43-minute color film, entitled "Yanomama: A Multidisciplinary Study," depicts the physical and cultural factors influencing the genetic and demographic characteristics of the Yanomama Indians, a primitive and isolated tribe living in the dense jungles of Venezuela and Brazil. The film is designed primarily for high school and college science classes and for persons interested in anthropology and genetics.

Produced with AEC support by Brandeis University and the University of Michigan, the main body of the film describes the role of each specialist participating in the study and shows the collection of data from such disciplines as human genetics, anthropology, dentistry, linguistics and medicine.

The National Science Foundation and the National Institute of Mental Health also supported production of the film, which features a brief sketch of Yanomama culture including the economy, rituals and daily activities.

Famed Concordia Choir Concert Set February 19

The famed Concordia Choir will make its seventh appearance in Oak Ridge at 8:15 p.m., February 19. Singing a capella, the choir will present music from the 16th Century classics to contemporary works. Directed by Paul J. Christiansen, son of the renowned F. Melius Christiansen, the choir comes from Concordia College, Moorhead, Minn.

Critics and press are unanimous in their praise of these musicians. The concert is sponsored by the Grace Lutheran Church, and will be held at the Oak Ridge High School Auditorium. Tickets are available at Miller's, Oak Ridge, and at the Music Box.

Calendar

TECHNICAL
January 28

Computing Center Bimonthly Information Session: Central Auditorium, Building 4500N, 9 a.m.

UT-Oak Ridge Biomedical Graduate School Special Lecture Series: "Recent Studies of Particulate Arrays in Unit Membranes," J. David Robertson, Department of Anatomy, Duke University Medical Center. Large Conference Room, Building 9207, Y-12, 3 p.m.

Joint Physics and Solid State Division Seminar: "Crystal Structure Determinations of Macromolecules by Anomalous Dispersion Methods," Rudolph Mossbauer, Technical University of Munich, Germany. Central Auditorium, Building 4500N, 3 p.m.

January 31

Biology Division Seminar: "Cell Kinematics and Partially Synchronous Populations of Cells," Burt V. Bronk, Department of Physics, Clemson University. First Floor Tower Annex Conference Room, Building 9207, Y-12, 12:15 p.m.

January 31
February 1

Analytical Chemistry Division Annual Information Meeting. Central Auditorium, Building 4500N, 9 a.m.

February 2

Chemical Technology Division Seminar: "Engineering Studies of Uranium Oxide Precipitation from MSBR Fuel Salt," M. J. Bell. Central Auditorium, Building 4500N, 3 p.m.

February 3

Biology Division Seminar: "Regulation of Protein Synthesis in Yeast," Jerry Fink, Cornell University. Large Conference Room, Building 9207, Y-12, 3 p.m.

February 9

Chemical Technology Division Seminar: "Studies of the Unusual Oxidation States of Transplutonium Elements," R. D. Baybarz. Central Auditorium, Building 4500N, 3 p.m.

February 14-16

Second Fetal Antigen Conference. Oak Ridge Playhouse.

"Let reverence for the laws become the political religion." — Abraham Lincoln

Seek Host Families In Exchange Program

The Oak Ridge Chapter of the American Field Service is now accepting applications from families who are interested in becoming host families for the 1972-73 International Student Program. Financing for this program is gained mainly through the Fall Key Sales.

If you like young people and will have a son or daughter in Oak Ridge during the 1972-73 school year, you meet the basic requirements. For further information call Mrs. John Michel, chairman, at 483-3071; or Mrs. Evelyn Armstrong, Oak Ridge High School, 483-7938; or Mrs. Janet Bartlett, 483-3236; Mrs. Mary Blake, 483-4958; or Mrs. Barbara Kelmers, 482-2116.

Interviews will be closed in early February.

The current AFS student in Oak Ridge is Gerard Louis Hector Legris from France. Gerard



Gerard

is from Normandy, about 70 miles west of Paris. He has completed his secondary schooling in France. When he returns at the end of this school year, he will resume his education toward a degree in business at Versailles.

Gerard's host family is Mr. and Mrs. Fred L. Hannon, 305 Valparaiso Road, Oak Ridge. Hannon is an engineer with the Project and Standards Department of the General Engineering Division.

SAFER AT WORK

There were 56,400 workers killed in 1970—a decrease of about 400 from 1969. On-the-job accidents, according to the National Safety Council, claimed 14,200 of this total, while 42,200 died as a result of off-the-job accidents.



MEETS POSTER GIRL—Mrs. Michael Shemanski, Oak Ridge Mother's March Chairman, recently met Carmen Dones, 1972 March of Dimes National Poster Girl. Carmen, eight, was born with an open spine, which partially paralyzed her legs. She also had water on the brain. Mrs. Shemanski, wife of a former Y-12 employee, attended the regional meeting in Atlanta recently. The National Foundation—March of Dimes is the largest national source of private support for research, medical service and health education aimed at the prevention of birth defects.

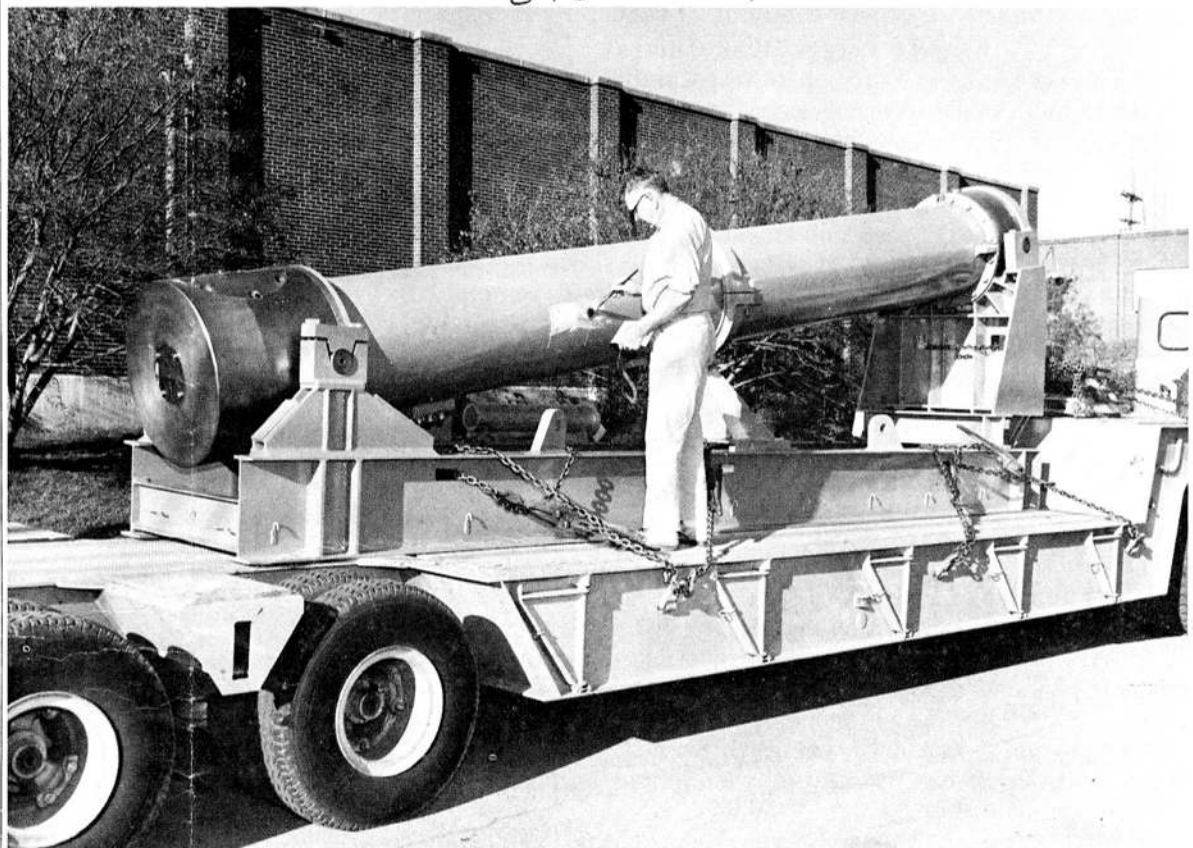
'Mothers March' Tonight in Oak Ridge

The Mothers march on birth defects in Oak Ridge tonight! An American tradition continues as volunteers will ring neighborhood doorbells on behalf of the march against birth defects.

Mrs. Michael Shemanski urges the wholehearted support of this appeal in the community to improve the quality of life at birth. "Until we can protect some quarter of a million infants every year from life-long handicaps, everyone must help," she explains.

The National Foundation—March of Dimes is the largest private source of money to carry on the research and health centers for the prevention of birth defects.

Mrs. Shemanski cites the rubella vaccine, Rh serum and rapid advances in treatment at birth as exciting progress in the quest for a healthier birthright for all children. Volunteers interested in helping the Mothers' March may call Oak Ridge 483-0198.



READY TO ROLL. Don Hodges of Isotopes Division places the radiation markings on a Peace Bottom single-element, spent-fuel shipping cask which was involved in a wreck near Clinton on December 8. After thorough inspection by Inspection Engineering Division at the TURF Facility, the cask is being returned to service. Only 19 days of service were lost during inspection at ORNL. The wreck which killed the truck driver and threw the cask several feet from the truck caused damage only to the cask's thermal shield and a center support. From ORNL the truck will travel to Texas to be fitted on a specially-made tractor trailer unit and on to California for a newly designed thermal shield. The cask will be returned to service and come back later on to ORNL with spent fuel from the Peach Bottom Reactor.